

REMARKS

In the August 31, 2010 Office Action, claims 1-4, 6, 7, 10, 11, 14, 17, 20 and 23-28 stand rejected in view of prior art. Claims 1-4, 6, 7, 10, 11, 14, 17, 20 and 23-28 also stand rejected as failing to comply with the written description requirement and as being indefinite for failing particularly point out and distinctly claim the subject matter that Applicant regards as the invention. No other objections or rejections were made in the Office Action.

Status of Claims and Amendments

In response to the August 31, 2010 Office Action, Applicants have amended claims 1-4 as indicated above. Thus, claims 1-4, 6, 7, 10, 11, 13, 14, 17, 20 and 23-31 are pending, with claims 1-4 being the only independent claims. Claims 13 and 29-31 were previously withdrawn from consideration. However, examination and rejoinder of these claims is respectfully requested, if appropriate, as indicated in the November 26, 2008 Restriction Requirement. Reexamination and reconsideration of the pending claims are respectfully requested in view of above amendments and the following comments.

Interview Summary

On November 9, 2010, the undersigned conducted a telephonic interview with Examiner Christopher M. Verdier, who is in charge of the above-identified patent application. Applicants wish to thank Examiner Verdier for the opportunity to discuss the above-identified patent application during the Interview of November 9, 2010.

Applicants' representative referenced Figures 5-6 (reproduced below) of instant application, and explained that the leading rotational edge referenced in the claims is at (55) in Figure 5, the trailing rotational edge is at (54) in Figure 5, and the edge portion is at (53) in Figures 5-6. Claims 1 and 2 refer to the ring-side edge portion (53) extending from a side plate end of the first surface portion (51), while claims 3-4 refer to the plate-side edge portion (56) extending from the main plate end of the first surface portion (51). See page 12 of instant specification. Applicant's representative argued that the part 55a, for example, in the instant application should not be considered the claimed "edge portion" of the first side plate (51), and that the instant application provides adequate support for the claim limitations, and that the limitations are definite.

Figure 5

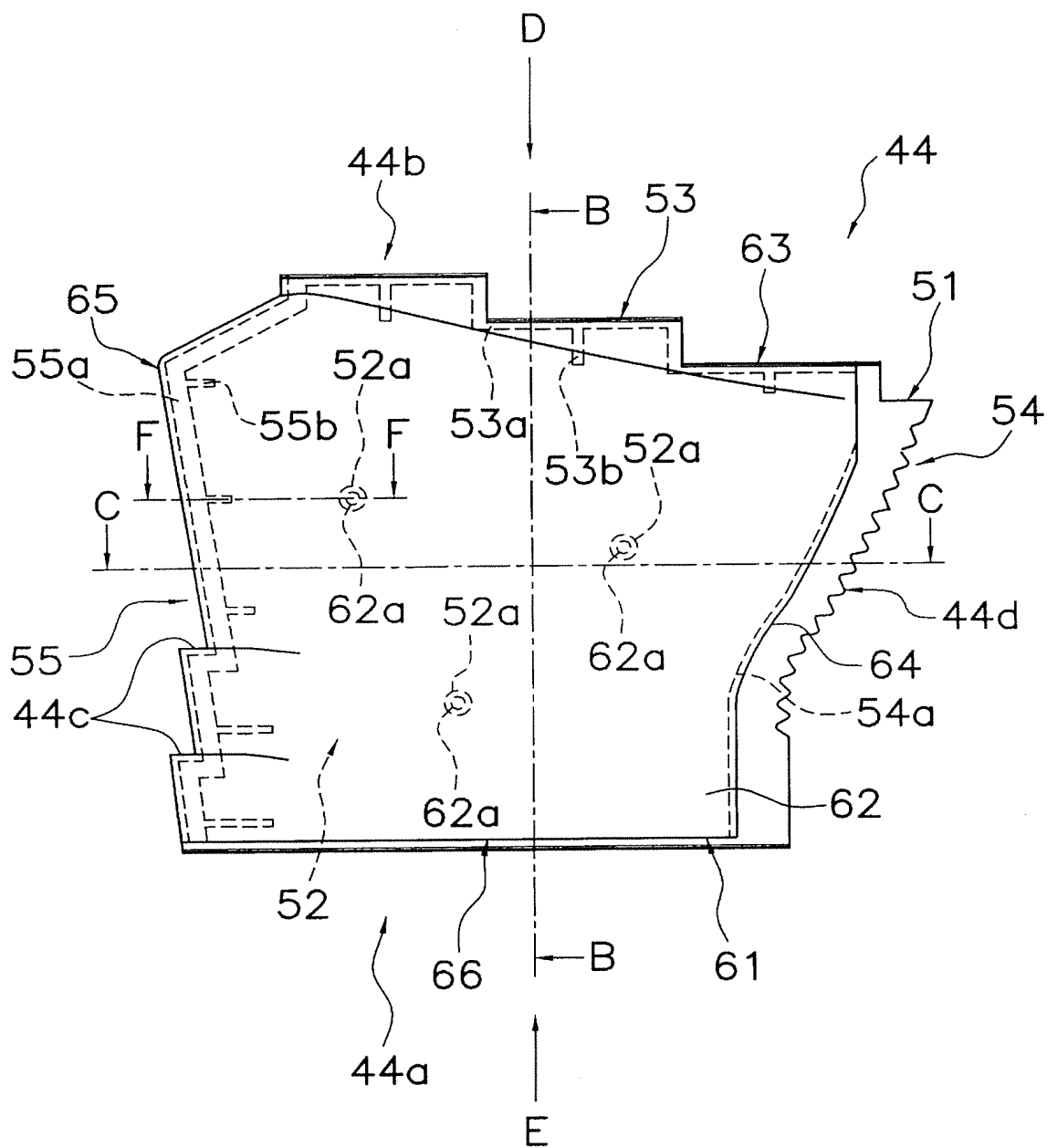
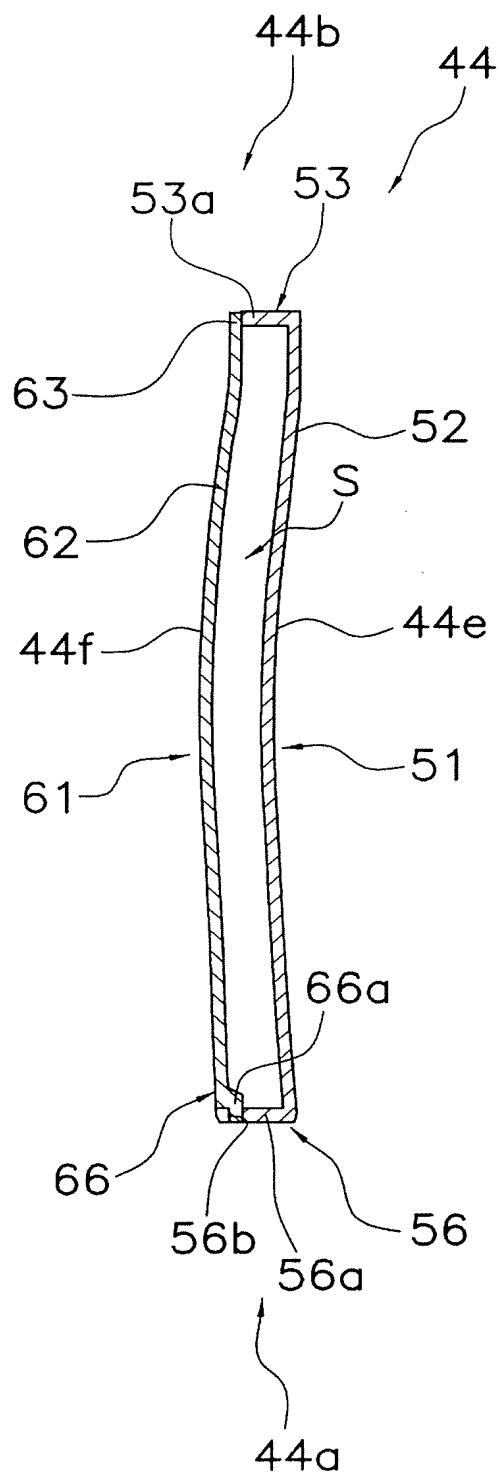


Figure 6



The Examiner understood this explanation, but indicated that the claim language is difficult to understand without the explanation from Applicants' representative, and thus, clarification was recommended to overcome the rejections. Specifically, the Examiner indicated that (A) the position of the edge portion (53,56) extending from a side/main plate end of the first surface portion (51) should be clarified, and that (B) how the interior surface of the edge portion faces the main/side plate through the hollow space along a majority of the hollow space between the leading and trailing rotational edges of the blade should be clarified. In other words, the Examiner asserted that (A) is not adequately defined, and (B) implies that the interior surface fills the hollow space. Regarding (A) Applicants' representative proposed better defining the side/main plate ends of the blades. No specific language to accomplish this clarification was discussed. Regarding (B), Applicants' representative proposed clarifying that the hollow space (S) has a length measured between the leading and trailing rotational edges and that the interior surface of the edge portion extends along a majority of the length of the hollow space to avoid any confusion. Agreement was generally reached that based on Applicants' representative's explanations and if such clarifications of (A) and (B) are made in a manner acceptable to the Examiner, the current rejections could be overcome. However, the Examiner indicated that such clarifications would raise new issues requiring further consideration and/or search. Finally, the undersigned noted errors in the last paragraph of claims 1-4, where the claims should read "the edge portion of the first side portion blade ..." and proposed correcting this error.

Claim Rejections - 35 U.S.C. §112

On pages 4-6 of the Office Action, claims 1-4, 6, 7, 10, 11, 14, 17, 20 and 23-28 were rejected under 35 U.S.C. §112, first paragraph and second paragraph. In response, Applicants have amended claims 1-4 to clarify these claims. Applicants respectfully traverse these rejections in view of these Amendments and the following arguments.

With respect to the rejection under 35 U.S.C. §112, first paragraph, first Applicants have amended the claims to clarify the meaning of the allegedly unsupported limitation(s). Second, Applicants note that the edge portion in the claims refers to the ring-side edge portion 53 (claims 1-2) or the plate-side edge portion 56. These parts are discussed in the specification beginning at page 12. Third, Applicants note that MPEP 2163 indicates that "An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such

descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997).” In other words, words are not the only way limitations can be disclosed and there is no *in haec verba* written description requirement. Rather, claim limitations may be supported in the specification through express, implicit or inherent disclosure. See MPEP 2163 (I)(B). Moreover, The ***drawings form a part of the original disclosure***. In fact, in *Vas-Cath Inc. v. Mahhurkar* (1991), the court held: “under proper circumstances, drawings alone may provide a ‘written description’ of an invention as required by § 112.” See *Vas-Cath Inc. v. Mahhurkar*, 935 F.2d 1555, 19 USPQ2d 1111 (Fed Cir. 1991). Note Figures 5-6 above as well as Figure 3 of the instant application). In view of the above explanations and Amendments, Applicants believe the claims now comply with 35 U.S.C. § 112, first paragraph. Accordingly withdrawal of the rejection under 35 U.S.C. § 112, first paragraph is respectfully requested.

With respect to the rejection under 35 U.S.C. § 112, second paragraph, Applicants have amended independent claim to clarify the limitation in question as discussed during the Interview. Thus, Applicants believe the claims are now definite and comply with 35 U.S.C. § 112, second paragraph. Accordingly withdrawal of the rejection under 35 U.S.C. § 112, second paragraph is respectfully requested.

Rejections - 35 U.S.C. § 103

On pages 6-11 of the Office Action,

- (1) claims 1-4, 7, 11, 14 and 23-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent Publication No. 64-41697 in view of either U.S. Patent Nos. 3,536,416 (Glucksman) or 6,848,887 (Kim) and 6,113,353 (Sato); and
- (2) Claims 6, 10, 17 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘697 publication and either the Glucksman patent or the Kim patent and the Sato patent as applied claims 1, 2, 3 and 4, respectively.

Other than the Sato patent, this is the same prior art as the prior Office Action. In response, Applicants have amended independent claims 1-4 as mentioned above. Applicants respectfully traverse these rejections, as explained below.

Independent claims 1 and 2 now require, *inter alia*, each edge portion having an end surface that abuts the respective one of the second surface portions at a side plate end thereof to form part of the blade shape retaining mechanism and to define a side plate end of the hollow space; the side plate ends of the hollow spaces, the first surface portions and the second surface portions being disposed at ends of the blades closer to the side plate than the main plate; and each blade having a leading rotational edge and a trailing rotational edge with the edge portion of the first side portion ~~the blade~~ extending between the leading and trailing rotational edges of the blade such that an interior surface of the edge portion faces the main plate with ~~through~~ the hollow space of the blade disposed between the interior surface of the edge portion and the main plate, the hollow space having a length measured between the leading and trailing rotational edges of the blade, and the edge portion extending along a majority of the length of the hollow space between the leading and trailing rotational edges of the blade.

Similarly, independent claims 3 and 4 now require, *inter alia*, each edge portion having an end surface that abuts the respective one of the second surface portions at a main plate end thereof to form part of the blade shape retaining mechanism and to define a main plate end of the hollow space; the main plate ends of the hollow spaces, the first surface portions and the second surface portions being disposed at ends of the blades closer to the main plate than the side plate; and each blade having a leading rotational edge and a rotational trailing edge with the edge portion of the first side portion ~~the blade~~ extending between the leading and trailing rotational edges of the blade such that an interior surface of the edge portion faces the side plate with ~~through~~ the hollow space of the blade disposed between the interior surface of the edge portion and the side plate, the hollow space having a length measured between the leading and trailing rotational edges of the blade, and the edge portion extending along a majority of the length of the hollow space between the leading and trailing rotational edges of the blade.

These arrangements are similar to those set forth in these claims but clarified to avoid confusion and to avoid interpreting incorrect parts, for example 55a, to be the claimed edge portion (53/56). Clearly these arrangements are **not** disclosed or suggested by the '697 publication, the Glucksman patent, the Kim patent and/or the Sato patent, singularly or in combination as explained below..

The Office Action acknowledges that the '697 publication, the Glucksman patent, and the Kim patent lack the previously present edge portion (53, 56). However, the Office Action asserts

that the Sato patent discloses such an edge portion (inside 2a) of the blade that extends between the leading 2a and trailing 2b rotational edges of the blade. Applicants disagree, especially in view of the Amendments to independent claims 1-4. Specifically, the so-called edge portion (inside 2a) in the Sato patent does not extend along a majority of the length of the hollow space as measured between the leading and trailing rotational edges. Moreover, the so-called edge portion (inside 2a) in the Sato patent lacks an interior surface facing the main/side plate with the hollow space being disposed between the main/side plate and the interior surface. Further, the Sato patent, lacks the main/side plate ends of the hollow spaces, the first surface portions and the second surface portions (where the edge portion 53/56 extends from/to such ends) being disposed at ends of the blades closer to the main/side plate than the side/main plate. Accordingly, the Sato patent fails to account for the acknowledged deficiencies of the '697 publication, the Glucksman patent, and the Kim patent with respect to independent claim 1.

The '697 publication (primary reference) Discloses follow ended blades, and thus lacks edge portions as claimed whatsoever. The Glucksman patent and the Kim patent are merely relied upon for their disclosures of resin. However, these references do not account for the deficiencies of the '697 publication and the Sato patent with respect to independent claims 1-4 explained above. Accordingly, even if the Glucksman patent and/or the Kim patent were somehow combined with the device of the '697 publication as modified by the Sato patent, the arrangements set forth in independent claims 1-4 would not result. Accordingly, withdrawal of the rejections of independent claims 1-4 is respectfully requested.

Under U.S. patent law, the mere fact that the prior art can be modified does *not* make the modification obvious, unless an *apparent reason* exists based on evidence in the record or scientific reasoning for one of ordinary skill in the art to make the modification. See, KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1741 (2007). The KSR Court noted that obviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some "apparent reason to combine the known elements in the fashion claimed." Id. at 1741. The current record lacks any apparent reason, suggestion or expectation of success for combining the patents, and then further modifying the hypothetical device created by the hypothetical combination of references to create Applicants' unique arrangements of independent claims 1-4.

Moreover, Applicants believe that dependent claims 6, 7, 10, 11, 13, 14, 17, 20 and 23-31 are also allowable over the prior art of record in that they depend from independent claim 1, and therefore are allowable for the reasons stated above. Also, dependent claims 6, 7, 10, 11, 13, 14, 17, 20 and 23-31 are further allowable because they include additional limitations, which in combination with the limitations of their respective independent claim 1, 2, 3 or 4, are not disclosed or suggested in the prior art. Accordingly, withdrawal of the rejections of dependent claims 6, 7, 10, 11, 13, 14, 17, 20 and 23-31 are also respectfully requested.

Prior Art Citation

In the Office Action, additional prior art references were made of record. Applicants believe that these references do not render the claimed invention obvious.

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In view of the foregoing amendment and comments, Applicants respectfully assert that claims 1-4, 6, 7, 10, 11, 13, 14, 17, 20 and 23-31 are now in condition for allowance. Reexamination and reconsideration of the pending claims are respectfully requested. As mentioned above, claims 13 and 29-31 were previously withdrawn from consideration. However, examination and rejoinder of these claims is respectfully requested, if appropriate, as indicated in the November 26, 2008 Restriction Requirement.

Respectfully submitted,

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Dated: November 15, 2010

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